

BJC-85 BJ M70

REFERENCE MANUAL

Canon

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1. PRODUCT OUTLINE

The BJ M70 and the BJC-85 are portable, color BJ printers targeting the personal use market. As successive models of the BJC-80/80v, the following functions have been added, the ease of connection has been improved, and the functions as a portable space-saving printer has been strengthened.

- (1) The high-speed IrDA (Ver.1.1) enables the printer to attain print speed comparable to that of the Centronics interface.
- (2) Direct printing from digital cameras by the new standards of IrTran-P.
- (3) Support of the USB I/F function.
- (4) Photo printing function is added.

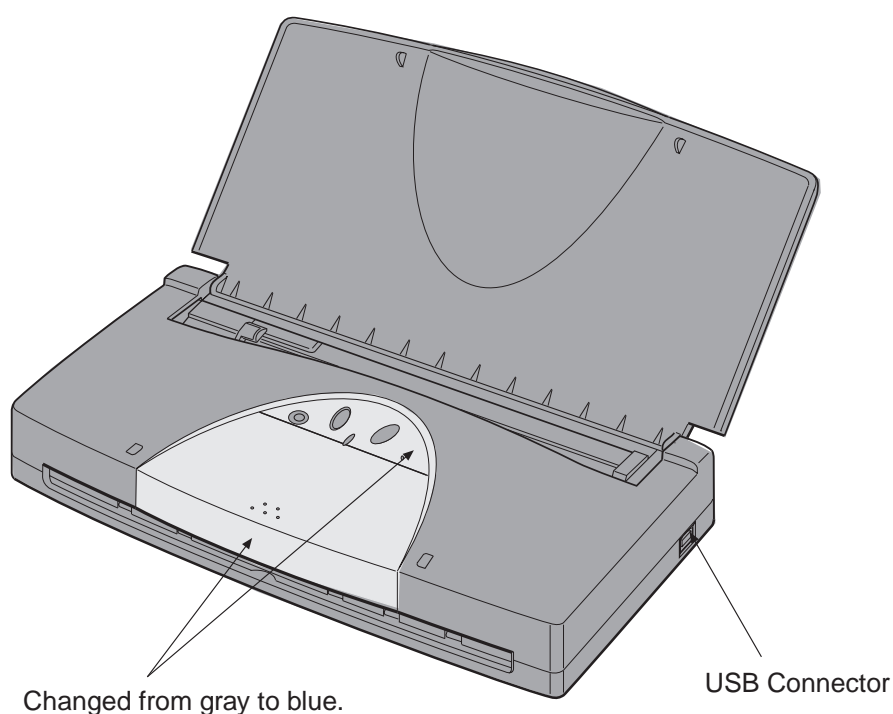
2. CHANGES FROM THE BJC-80/80v

- 1) New adoption of the photo cartridge (Photo printing function is added.)
- 2) The IrDA version upgrade from Ver. 1.0 to 1.1 has enabled faster transmission.
- 3) New adoption of IrTranP (Direct printing from digital cameras, enabled only in BJ M70).
- 4) New adoption of USB I/F
- 5) One emulation (BJC-85: LQ mode / BJ M70: BJ mode)
- 6) Button reset of the ink low warning is added.
- 7) Various specifications / Circuit diagram
- 8) Special tool (spur cleaner) is added.

3. EXTERNAL APPEARANCE

The BJ M70 and the BJC-85 have the same appearance as the BJC-80/80v, except for the following:

- (1) The USB I/F connector has been added to the right side of the printer.
- (2) The color of the panel cover and inner cover has been changed from gray to blue.



4-1. PRINTER SPECIFICATIONS

Type	Portable serial color bubble jet printer		
Paper feeding method	Auto sheet feed		
Printing speed	Burst HS: 434cps HQ: 346cps (when using the BC-10) Throughput: BC-10 New monochrome pattern (E) 5 ppm(HS) 3.9 ppm(Standard) New monochrome pattern (J) 5 ppm(HS) 4.3 ppm(Standard) BC-11e New color pattern (E) 2 ppm(HS) 1.6 ppm(Standard) New color pattern (J) 2 ppm(HS) 1.7 ppm(Standard) BC-12e A4 full address 1.0ppm (HQ)		
Printing direction	Unidirectional (automatically selected according to the print data)		
Max. Print Width	203 mm		
Line feed pitch	136 ms/line (128" /360" line feed)		
Built-in print control mode	LQ mode: BJC-85 only BJ mode: BJ M70 only Native mode BJL command		
Detection functions	Presence of paper: Available Presence of BJ cartridge: Available Waste ink amount: Available Paper width: Not available Distinction of BJ cartridge: Available Ink low: Available (by using the dot-count)		
Noise	Sound pressure level: conforms to ISO9296 Approx. 45 dB (A) or less during operation (HQ/HS mode)		
Environmental requirements	During operation Temperature 5°C to 35°C (41°F to 95°F) Humidity 10%RH to 90%RH (no condensation) Non operation Temperature 0°C to 35°C (32°F to 95°F) Humidity 5%RH to 95%RH (no condensation)		
Power supply	Input voltage/Frequency: AC100 V, 50/60 Hz AC120 V, 60 Hz AC230 V, 50 Hz AC240 V, 50 Hz Power consumption Printing status Standby status Soft power off Max. 30 W 3 W 2 W		
External dimensions	300 mm (W) x 157.6 mm (D) x 57 mm (H)		
Weight	Approx. 1.4 Kg (including BJ cartridge)		

4-2. INTERFACE SPECIFICATIONS

The interface specifications of this printer is shown below.

- 1) Bidirectional Centronics Interface (IEEE1284 compatible)
- 2) Infrared Interface
 - IrDA Interface Ver. 1.1 / IrTranP
 - ASK Interface
- 3) USB Interface

<Difference from the BJC-80/80v>

- 1) **The specified version of IrDA is changed from Ver. 1.0 to 1.1.**
- 2) **IrTranP compliant.**
- 3) **USB interface compliant.**

IrDA Ver. 1.1 and USB I/F compliancy for preinstalled Windows 98 PCs.
Windows 95 PCs comply with IrDA Ver. 1.0.

The specifications of IrDA Ver. 1.1 and USB I/F are explained below. See the BJC-80/80v Service Manual for details regarding the bidirectional interface/ASK interface.

4-2-1. IrDA Interface

- 1) Interface
 - IrDA Version 1.1 compatible
- 2) Optical specifications
 - Light generation
 - Wavelength: 0.85 to 0.90 μm
 - Intensity: 100 to 500 m W/Sr
 - Light angle: $\pm 15^\circ$ (along optical axis)
 - Light interception
 - Wavelength: 0.85 to 0.90 μm
 - Intensity: $4\mu\text{ W/cm}^2$ to 500m W/cm^2
 $10\mu\text{ W/cm}^2$ to 500m W/cm^2
(when the communication speed is more than 0.576 MHz.)
 - Light angle: Max. $\pm 15^\circ$ (along optical axis)
- 3) Transfer speed 9600/19200/38400/57600/115.2k/576k/1.152M/4M bps
- 4) Communication method
 - Half duplex, start/stop system (bidirectional):
when the transfer speed is less than 115.2kbps
 - Half duplex, frame synchronization system (bidirectional):
when the transfer speed is more than 0.576Mbps
- 5) Communication distance
 - 0 to 1m: when the transfer speed is less than 115.2kbps
 - 0 to 0.8m: when the transfer speed is more than 0.576Mbps

- 6) Maximum received data size 2048 byte/packet
- 7) Modulation method 3/16 RZI (Return to Zero Invert):
when the transfer speed is less than 115.2kbps
1/4 RZI (Return to Zero Invert):
when the transfer speed is 0.576Mbps and 1.152Mbps
4 PPM (Pulse Position Modulation):
when the transfer speed is 4Mbps

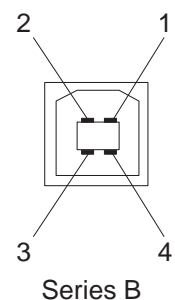
4-2-2. USB Interface

<Specifications>

- 1) Device structure Self-powered device
- 2) Data transfer method
Half duplex serial interface
Universal Serial Bus Specification Revision 1.0 compatible
Universal Serial Bus Device Class Definition for printing
Device Version 1.0 compatible
Signal rate: 12Mbps (full speed)
Transfer type: Control transfer/Bulk transfer

- 3) Input/output circuit

No.	Signal name	
1	Vcc	
2	-Data	Data signal line
3	+Data	Data signal line
4	GND	



<Signal level>

Vcc: "H" level input voltage: +2.0V to +5.5V

"L" level input voltage: +0.0V to +0.8V

-Data, +Data: Differential input sensitivity

"H" level input voltage: +2.8V to +3.6V

"L" level input voltage: +0.0V to +0.3V

- 4) Interface cable
Material: AWG No.28 or larger
Full speed device cable (with twisted-pair shield)
Less than 5 mm
- 5) Interface connector
Printer-side: USB standard, Series B receptacle
Cable-side: USB standard, Series B plug

<Technical explanation>

USB is a serial interface which connects up to 127 peripheral devices to a host computer, and transmits data at a high-speed rate of 12Mbps. Hot plugging, in which connecting/disconnecting devices while the host or the printer is in use, is supported. Each device is connected to a hub's port, where each port's detection/disconnection status is returned to the host.

Data transfer

The data transfer in USB is executed in terms of the transfer unit called a frame, a time frame of approximately 1ms, into which the data is divided. Data is transferred by piling up these frames.

All packets begin with a SYNC (synchronizing) field to synchronize with the local clock, and are separated with an EOP (End of Packet) field.

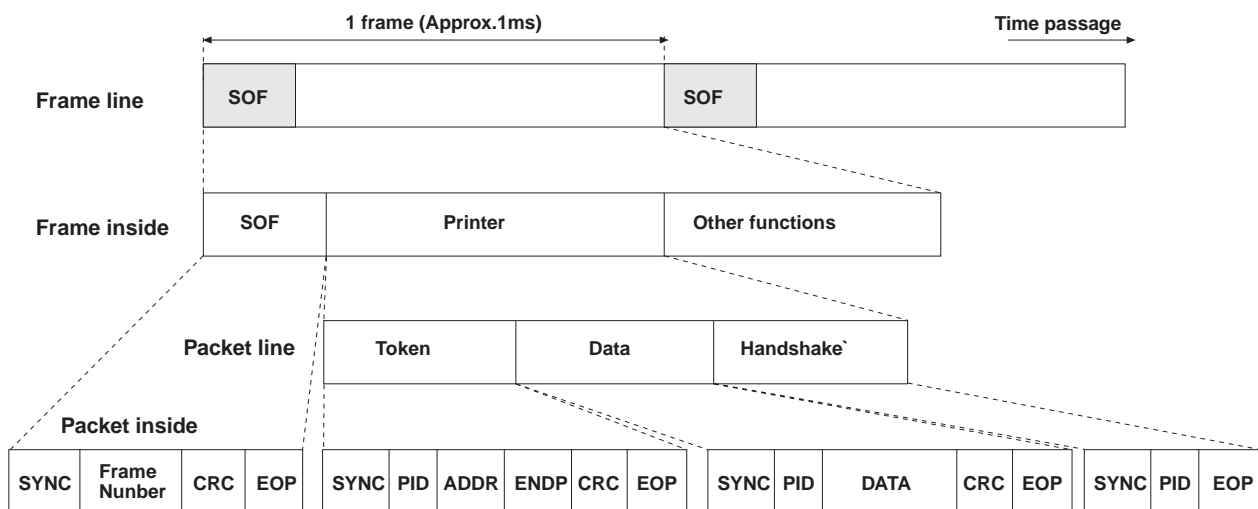
Frame lines begin with an SOF (Start of Frame) packet. An SOF is composed of a PID (Packet Identification Field) that represents the type of the packet and the direction, frame number, and a CRC (Cyclic Redundancy Check) used for error-check.

Inside a frame is a packet line containing a token packet, data packet and a handshake packet, which indicates the status of the flow control.

A token packet is composed of a PID, an address field which can specify up to 128 addresses, an ENDP (endpoint) field, and a CRC.

Inside a data packet are a PID, data field, CRC, and EOP.

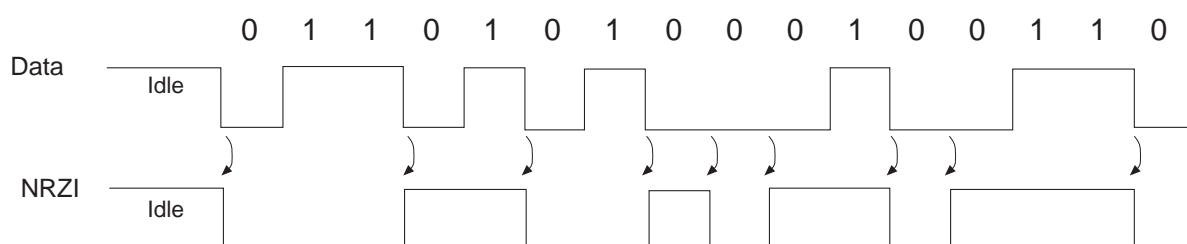
Only a PID is present inside the handshake packet.



Encoding/Decoding the Data

In USB, data transfer lines are ultimately encoded with NRZI (Non Return to Zero Invert) method. When the original data bit is 0, sent data bits are inverted; when the original data bit is 1, the value is retained.

However, if the level of the transferred data remain unchanged for a certain period of time, the receiving side may not be able to synchronize with the data sample position, which will result in data bits being out of phase. This is prevented by a method called bit stuffing; when data bit 1 is repeated 6 times, one 0 bit is added to the original data before encoding with NRZI.



4-3. PAPER SPECIFICATIONS

Plain paper (Weight: 64 to 90g / m²)

Government postcard (Weight: 90g / m², Thickness: 0.23 mm)

Coated paper (Canon coated paper LC-301, A4/LTR)

High resolution paper (Canon high resolution paper HR-101, A4/LTR)

Glossy paper (Canon glossy paper GP-301, A4/LTR)

Transparency film (Canon transparency film CF-102, A4/LTR)

BPF (Canon back print film BF-102, A4/LTR)

Glossy film (Canon glossy film HG-101, A4/LTR)

T-shirt transfer (Canon T-shirt transfer TR-201, A4/LTR)

Fabric sheet (Canon fabric sheet FS-101, A4/LTR)

Glossy postcard (Canon glossy postcard KH-201)

Photo glossy postcard (Canon photo glossy postcard FM-101)

Envelope (Size 4, size 6, COM #10, DL)

Note: Printing on fanfold paper and labels is not supported.

Type	Paper	Size	Remarks
Plain paper ^{*1}	PB (SK/DK) Kangas Neusiedler Boise Cascade XX4024(75g/m ²) XX4024(95g/m ²) Fox River Bond	A4, B5, A5 A4 A4 LTR, LGL LTR, LGL LTR, LGL LTR	Suggested paper See ^{*1}
Color BJ plain paper	LC-301	A4, LTR	See ^{*1}
High resolution paper ^{*2}	HR-101	A4, LTR	See ^{*2}
Glossy paper ^{*2}	GP-301	A4, LTR	See ^{*2}
Transparency film ^{*2}	CF-102	A4, LTR	See ^{*2} , Note 1)&2)
BPF ^{*3}	BF-102	A4, LTR	See ^{*3} , Note 2)
Glossy film ^{*2}	HG-101	A4, LTR	See ^{*2} , Note 2
T-shirt transfer	TR-201	A4, LTR	See ^{*3}
Fabric sheet ^{*3}	FS-101	A4, LTR	See ^{*3} , Note 1)
Government postcard ^{*2}	-----	100 x 148*	See ^{*2}
Glossy postcard ^{*2}	KH-201	100 x 148*	See ^{*2}
Photo glossy postcard	FM-101	215.9 x 119.6*	See ^{*3}
Envelope ^{*4}	Size 4 Size 6 COM #10 DL	235 x 105* 190 x 98* 241 x 106* 220 x 110*	See ^{*4}
Thick paper	91 to 105g / m ²		

*: Unit: mm

^{*1}: Stackable up to 3 mm (Approx. 30 sheets). For legal size paper, feeds single sheet.

^{*2}: Stackable up to 10 sheets ^{*3}: Single paper feeding ^{*4}: Stackable up to 5 sheets

Note 1): A plain sheet of paper should be set under the back print film, fabric sheet, and T-shirt transfer.

Note 2) Transparency film, back print film, and Glossy film are usable when the humidity is 70 % or less.

4-4. PHOTO BJ CARTRIDGE SPECIFICATIONS

Photo cartridge BC-12e

BJ cartridge BC-12e: Ink cartridge replaceable type of color BJ cartridge (drop modulation adopted)

Ink cartridge BCI-12Bk: Black (64 nozzles)

Ink cartridge BCI-12Color: Yellow, Magenta, Cyan (24 nozzles x 3)

No. of pages printed: Approx. 20 pages : reference value (in the HR-Fine mode, 7.5% duty pattern per color (A4) : calculated value)

Weight: Approx. 29 g (including both ink cartridges)

Print speed: Approx. 0.1 pp : reference value (A4 full address printing pattern)

Nozzle check pattern: Same as the BC-11e

HR-Fine mode

Carriage motion: 3 pass

Printing nozzle: 8 nozzle

Resolution: 360 dpi

Carriage driving frequency: 5.00 kHz

Photo print mode can be used to obtain high level gradation print quality when using the Photo BJ cartridge. These cartridges contain light density ink which achieves a rich gradation and reduced graininess by printing several times over the same dot.

The printer driver divides the pixel data into a maximum of 4-values (not printed, print 1 dot, print 2 dots and print 3 dots) enabling each pixel to be printed in up to 4 gradations.

The printer therefore makes three passes using a maximum of 150% more ink than usual.

This Photo cartridge adopts drop modulation, decreasing granularity of the light density parts by efficiently ejecting large and small ink droplets.

Head ID

Head		Carriage ribbon cable contact part pin No. / Signal name		
		11/ID0	12/ID1	13/HCONT
	BC-10	L	L	H
	BC-11e	H	L	L
	BC-12e	H	H	L
	No head installation error	H	H	—

The printer has no detection function of the ink cartridge type, and for the BC-11e and BC-12e, the ink cartridges to be installed are not incompatible, therefore, the following mistaken installation may occur. In case the BCI-12 Bk/Color are installed in the print head of the BC-11e, as the printer recognizes that the color cartridge (BC-11e) has been installed in spite of light density photo ink cartridge installation, low density imaging is produced. In case of the installation of the BCI-11 Bk/Color in the print head of the BC-12e, in reverse, high density colored imaging is produced.

5. OPERATION

5-1. FUNCTION SETTING

Default setting

The default setting can be set by button operation when the power is turned on. When the printer is turned on, hold down the POWER button until the beeper sounds the specified number of times for the desired function setting, and release the POWER button to set.

Function Setting

Mode	Beeper	Remark
Table 1	7 times	Factory default setting
Table 2	8 times	
Table 3	9 times	
Table 4	10 times	
Table 5	11 times	

<Difference from the BJC-80>

BJC-85

- 1) No setting regarding the BJ mode
- 2) The setting to enable/disable the ink low warning is added.
- 3) The setting of Euro font is added.

	Table 1	Table 2	Table 3	Table 4	Table 5
Print mode	HQ	HQ	HQ	HQ	HQ
Left margin	LTR	LTR	A4	A4	A4
Text scale mode	Disable	Disable	Disable	Disable	Disable
Paper feed position	8.5 mm	8.5 mm	8.5 mm	8.5 mm	8.5 mm
Smoothing	Disable	Disable	Disable	Disable	Disable
Reduction	1/1	1/1	1/1	1/1	1/1
Automatic power off	Disable	Disable	Disable	Disable	Disable
Font	Roman	Roman	Roman	Roman	Roman
Font lock	Disable	Disable	Disable	Disable	Disable
Input/download buffer	25 kB/0 kB	25 kB/0 kB	25 kB/0 kB	25 kB/0 kB	25 kB/0 kB
Automatic line feed	CR	CR	CR	CR	CR
International character set	USA	USA	USA	USA	USA
Character set	Italics	Italics	Italics	Italics	Graphics
Code page	437	437	437	437	858
Ink low warning	Disable	Enable	Disable	Disable	Disable

When the printer is turned on, hold down the POWER button until the beeper sounds 12 times to change "Code Page" in the following table to "858," "Character Set" to "Graphics." Other items will not be changed.

<Difference from the BJC-80v>

BJ M70

1) No setting regarding the LQ mode

2) The setting to enable/disable the ink low warning is added.

	Table 1	Table 2	Table 3	Table 4	Table 5
Operation mode change	BJ	BJ			
Print mode	HQ	HQ			
Automatic power off	Disable	Disable			
Smoothing	Disable	Disable			
Remaining ink	Disable	Enable	Same as Table 1	Same as Table 1	Same as Table 1
Reduction	1/1	1/1			
BJ Paper feed position	8.5 mm	8.5 mm			
BJ receive buffer	23 kB	23 kB			
BJ ANK character quality	Normal	Normal			
BJ ANK character set	Katakana	Katakana			
BJ CR function (+LF)	CR only	CR only			
BJ ANK international character	Japan	Japan			

5-2. ERROR INDICATIONS

<Difference from the BJC-80/80v>

	Beeper	
	BJC-80/80v	BJC-85/BJ M70
Waste ink warning	4 times	5 times
Low battery warning	3 times	4 times
Ink low warning	Once	Twice
Cartridge replacement compulsory completion warning	Twice	3 times
Diode sensor error	9 times	-----*1

*1: Eliminated

<BJC-85/BJ M70 error indications>

Error condition	Error LED	Power LED	Beeper
[Recoverable by customers]	(Orange)	(Green)	
Paper pick-up error	Lights	Lights	Once
Paper delivery error	Lights	Lights	Twice
BJ cartridge check	Lights	Lights	3 times
Cartridge mis-match	Lights	Lights	4 times
Ink low warning*1	Blinks	Lights	Twice
Cartridge replacement compulsory completion warning	Blinks	Lights	3 times
Low battery warning	Blinks	Lights	4 times
Waste ink warning	Blinks	Lights	5 times
Low battery error (with battery)	Blinks	Blinks	Long, then short
[Unrecoverable by customers]			
ROM error	Blinks	Blinks	Once
RAM error	Blinks	Blinks	Twice
No head installation error	Blinks	Blinks	3 times
HP sensor error	Blinks	Blinks	4 times
Waste ink full error	Blinks	Blinks	5 times
Internal temperature error	Blinks	Blinks	6 times
Print position detection error	Blinks	Blinks	7 times
Abnormal temperature rise error	Blinks	Blinks	8 times
EEPROM error	Blinks	Blinks	11 times
Low battery error (with AC adapter)	Blinks	Blinks	Long, then short

*1: Ink low warning is enabled only when the ink low warning selection is set to on.

5-3. INK LOW WARNING RESET BY BUTTON OPERATION

Ink low warning

This printer detects the remaining ink level by counting the number of ejected ink dots in the same way as the BJC-80/80v. When the setting of the ink low warning is enabled, and the remaining ink gets low, the beeper sounds twice, and the ERROR LED blinks.

Pressing the cartridge replacement button will sound the beeper and move the carriage to the center, and the ERROR LED indicates the ink cartridge for which the remaining ink is low as shown below.

Blinks once: when the remaining ink of the BCI-10 / BCI-11Bk / BCI-12Bk is little



Blinks twice: when the remaining ink of the BCI-11Color / BCI-12Color is little



Blinks 3 times: when the remaining ink of the BCI-11 BK & Color / BCI-12 BK & Color is little



The ink low warning reset function by button operation is added to this printer. The button operation procedures are shown below. (The ink low warning of the BJC-80/80v can be reset from the host computer only.)

Operation

- 1) Turn on the printer.
- 2) Press the cartridge replacement button to move the carriage to the center.
If the carriage was moved to the center by signals from the PC, the reset operation by the cartridge replacement button is not possible.
- 3) Make sure that the proper cartridge is installed in the carriage. If not, install the proper one. (The ink dot counter reset is effective only to the ink cartridge type installed in the carriage.)
- 4) Press and hold the *RESUME* button for the number of beeps corresponding to the warned ink type to select the ink type for which the dot counter is to be reset, and release the *RESUME* button. The number of beeper sounds is as follows:

Once:	The dot counter of the BCI-10/BCI-11Bk/BCI-12Bk is reset.
Twice:	The dot counter of the BCI-11Color/BCI-12 Color is reset.
3 times:	The dot counter of the BCI-11Bk&Color/BCI-12Bk&Color is reset.
4 times:	The selected ink type is canceled.
- 5) Press the cartridge replacement button.
The ink dot counter selected in the procedure 4) and the ink low warning are reset, and at the same time, the carriage returns to the home position.

5-4. DIRECT PRINTING FUNCTION OF THE IMAGE FROM DIGITAL CAMERAS (BJ M70 only)

<Difference from the BJC-80/80v>

The new adoption of IrTranP has enabled the printing of data directly sent from digital cameras compliant to IrTranP standards, not through the host computer, but via IrDA communication.

Specifications

Data communication form:	IrTranP standards compatible
Input image size:	640 x 460 pixels
Input image capacity:	128 Kbyte or less
Output image size:	Landscape: 90 x 68 mm Portrait: 77 x 103 mm Seal printing: 19 x 26 mm x 16 images
Paper size:	Postcard

Operation

<Image printing>

After receiving the data, the image data is output by pressing the *RESUME* button, and releasing before the beeper sounds. This is not effective when an error has occurred or paper is fed.

<Reprinting>

The image data is also maintained in the memory after printing, and will not be abandoned until new image data is received from the digital camera, or print data is input from the host computer. Reprinting of data is possible by pressing the *RESUME* button (and releasing before the beeper sounds).

<Printing cancellation>

During the printing of image data, printing is cancelled by pressing the *RESUME* button until the beeper sounds once, then releasing. In this case paper is delivered. The remaining data halfway through printing is abandoned. (As the image data has been maintained, it is possible to reprint the data, without resending the data from the digital camera.)

<Printing position definition>

To select the printing position, press the POWER button and cartridge replacement button simultaneously when the power is on, and release the buttons after the beeper sounds the number of times applicable to the printing position to be selected. This setting returns to the default (Landscape) by powering off. The number of beeper sounds is as follows:

Once:	Portrait
Twice:	16-image seal printing
3 times:	Photo glossy card landscape
4 times:	Photo glossy card portrait
5 times:	Setting completed. (The power is normally turned on.)

6. SPECIAL TOOLS

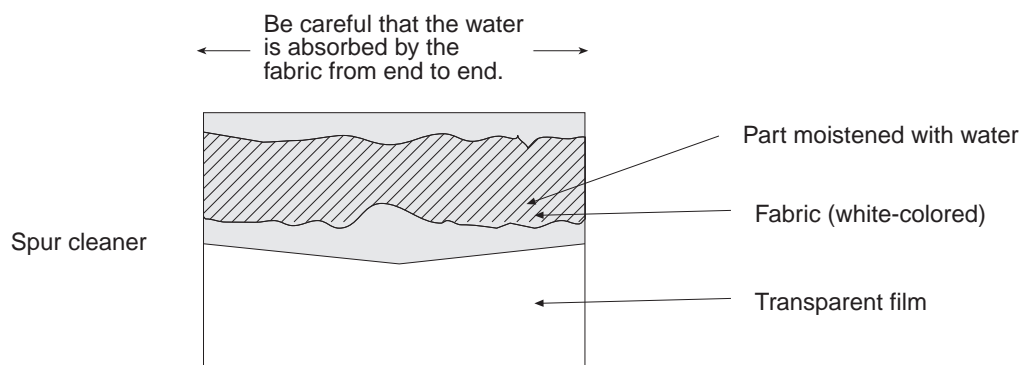
Clean spurs by using the spur cleaner in case spur marks are left on the print images.

Special tool (part number)
Spur cleaner (QY9-0055-000)

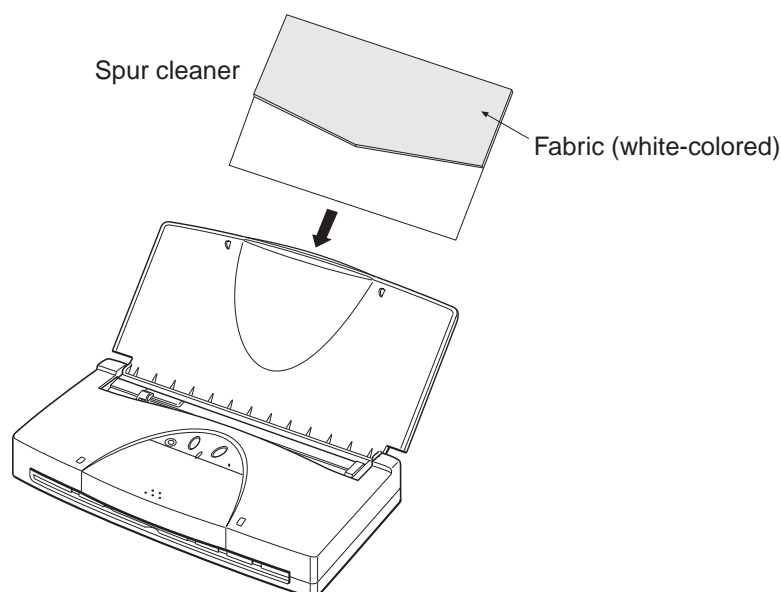
Remarks
For cleaning spurs

Usage

- 1) Moisten the fabric part of the spur cleaner with approx. 5 cc of water.
Moisten the fabric with the water, as shown below, so that the fabric absorbs the water from end to end.
Be careful not to moisten the fabric with too much water. In case too much water is used, there is the possibility that water will be wrung from the spur cleaner when passing through the paper feed roller, spread inside the printer, and cause failure.



- 2) Turn on the power of the printer. Remove the paper from the ASF to set the spur cleaner with the fabric-affixed part of the cleaner face-up and to the top.
- 3) Press the *RESUME* button, and release it after the beeper sounds once. The spur cleaner is fed and stops at the print start position.
- 4) Press the *RESUME* button again, and release it after the beeper sounds once. The spur cleaner is delivered. Repeat procedures 3) to 4) approx. 5 times in case of heavy soiling.
- 5) Set a single sheet of paper to the ASF to repeat procedures 3) and 4). (To remove the moisture remaining in the paper feeding path.)

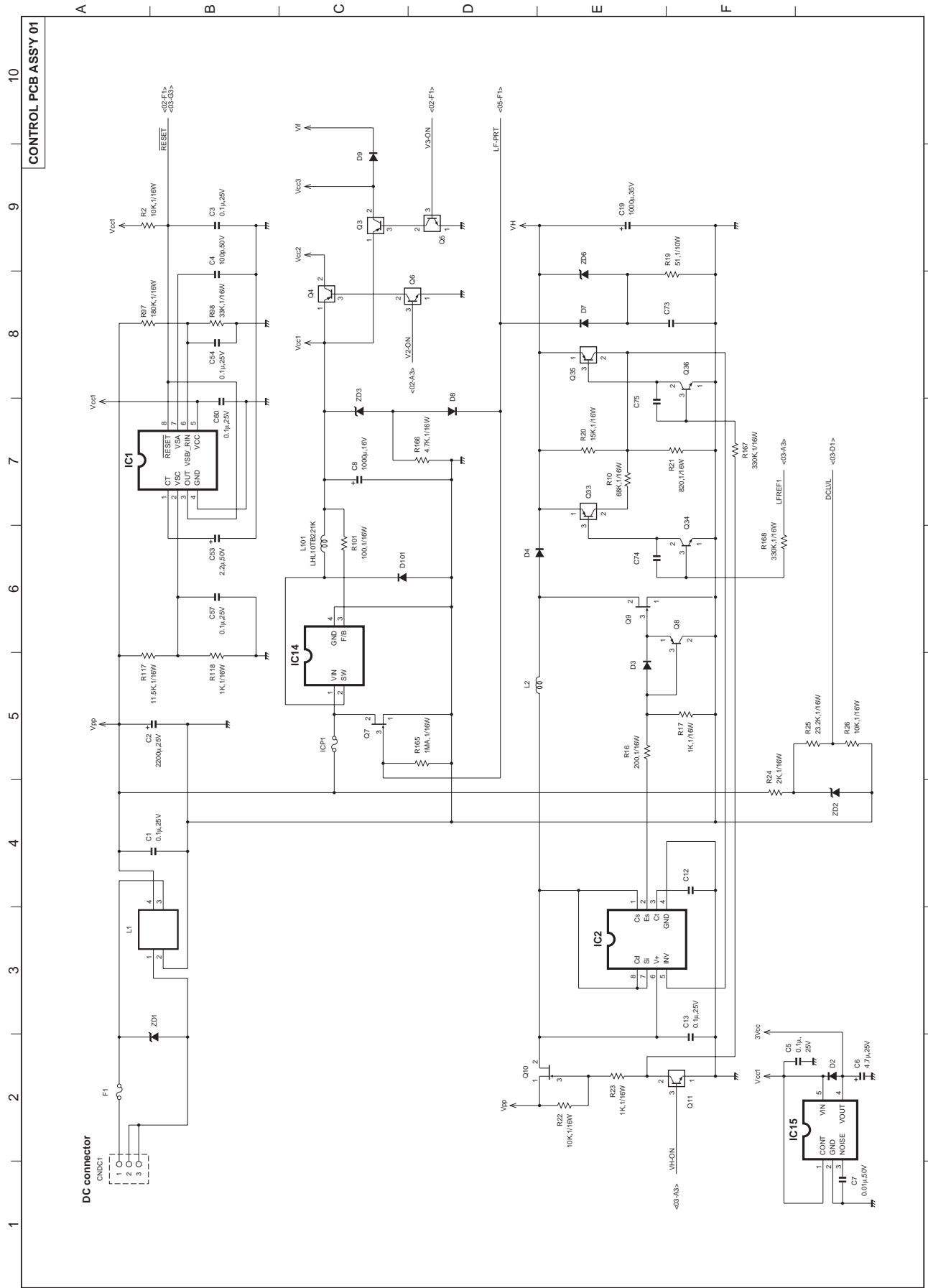


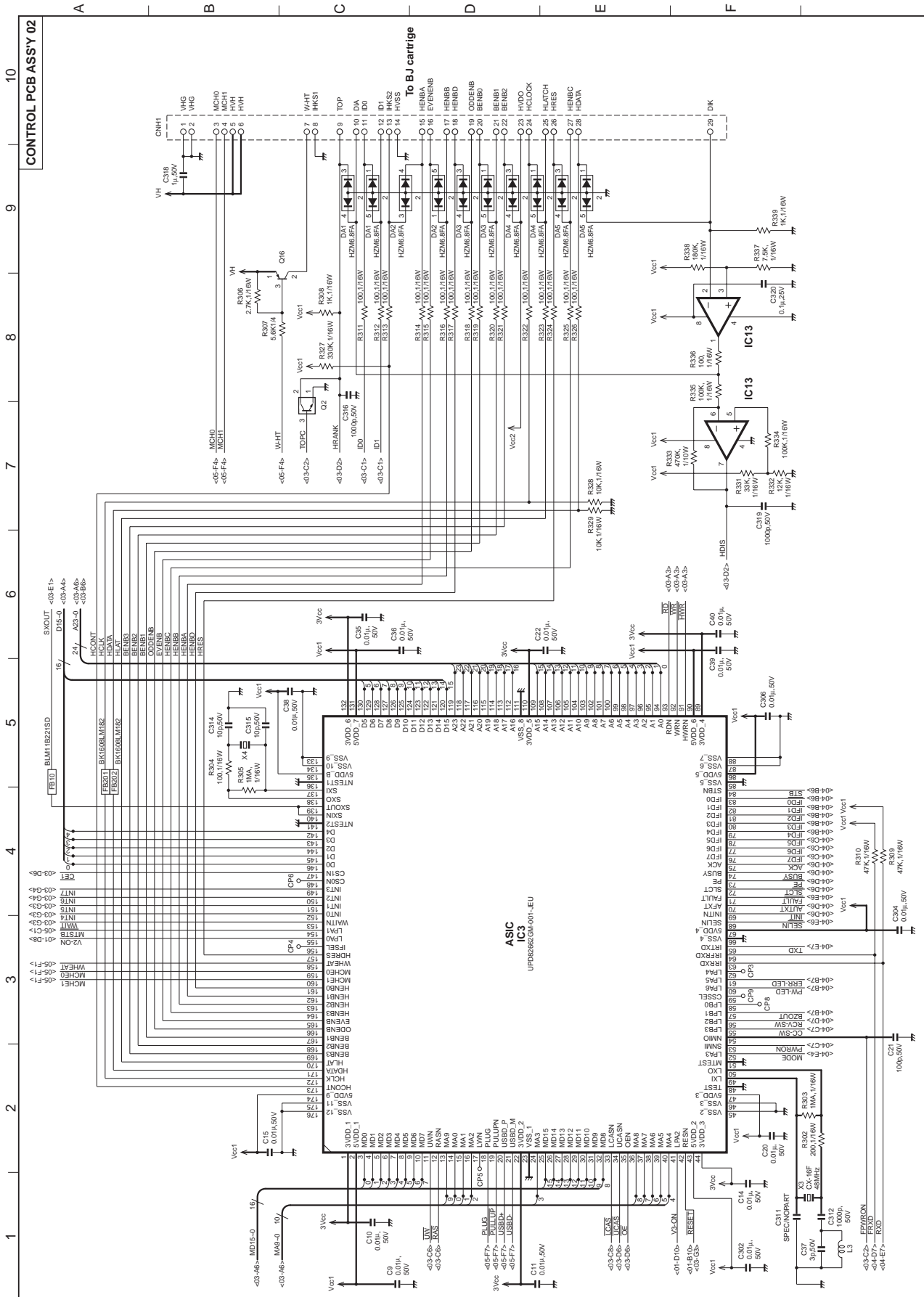
7. PARTS LIST

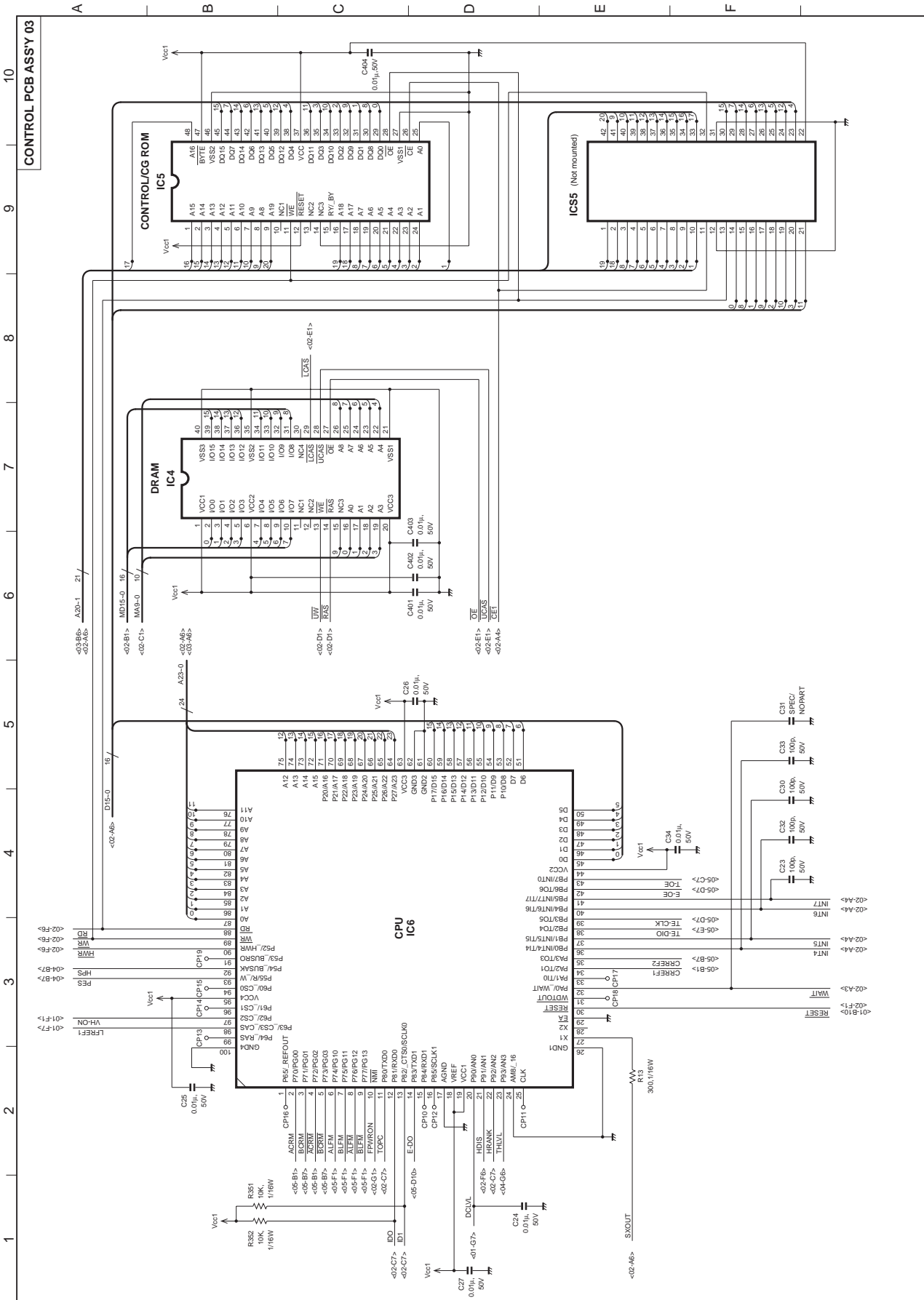
	BJC-85	BJ M70
COVER, INNER	QB1-4449	QB1-4450
COVER, PANEL	QB1-4451	QB1-4452
CONTROL PCB ASS'Y	QG2-3096	QG2-3097
CHASSIS PLATEN UNIT	QG5-1476	QG5-1481
FLASH-ROM	QH8-0258	QH8-0259

Service parts other than the above are common for BJC-85 and BJ M70.
See the BJC-85 and BJ M70 Parts Catalog for details.

8. CIRCUIT DIAGRAM (Common for BJC-85 and BJ M70)









BJC-85 BJ M70 PARTS CATALOG

REVISION 0

Q30-3210-220	120V(CCSI)
Q30-3210-221	120V(CANADA)
Q30-3210-222	120V(LATIN)
Q30-3210-230	220V-240V(EUR)
Q30-3210-231	220V-240V(GER)
Q30-3210-232	220V-240V(FRN)
Q30-3210-233	220V-240V(ASIA HV)
Q30-3210-240	220V-240V(AUST)
Q30-3210-280	220V-240V(UK)
Q30-3211-210	100V,50/60HZ(JPN)
Q30-3212-250	220V-240V(HK)
Q30-3212-260	220V-240V(KRN)

Canon

NOV. 1999

QY8-31AJ-000

1199 SE 0.25-0

**BJC-85
BJ M70
PARTS
CATALOG**

Canon

Application

This manual has been issued by Canon Inc. for qualified person to learn technical theory, installation, maintenance, and repair of products. This manual covers all localities where the products are sold. For this reason, there may be information in this manual that does not apply to your locality.

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CANON INC.

BJ Printer Technical Support Dept.

16-1, Shimonoge 3-chome, Takatsu-ku, Kawasaki-shi,
Kanagawa 213-8512, Japan

DTP System

This manual was produced on an Apple® Power Macintosh® G3 personal computer and Canon LBP-2030PS laser beam printer, final pages were printed on Valityper® 4300J.

A Canon mo-5001S™ Magneto-optical Storage Subsystem with mo-502M™ Magneto-Optical Storage Disk Cartridge and mo-IF2™ Machintosh® interface kit were used for storing large volumes of page layout, graphic and parts list data for this manual.

Parts layout illustrations and Logotypes were created using MACROMEDIA® FreeHand® 7J.

Pattern drawing were scanned by CanoScan 600 scanner with Adobe® photoshop®.

Documents and page layouts were created using QuarkXpress® 3.3J.

Parts lists were created using Helix Technologies® Herix Xpress® and converted to EPS files.

I. CONTENTS

- A. PARTS LAYOUT & PARTS LIST
- B. SCREWS & WASHERS LIST
- C. NUMERICAL INDEX

II. ABOUT THIS MANUAL

A PARTS LAYOUT & PARTS LIST

Parts layout illustration

a) Parts search

Find a part from the parts layout illustration and find its key number from the parts list to identify the part number and name. For screws, nuts, washers, lock washers, pins, spacers, see SCREWS & WASHERS LIST.

Note: If parts have the same or similar shape but different specifications, their key number is assigned to several part numbers and names in the parts list.

b) Parts replacement procedure

To replace parts, the parts layout illustrations have figure numbers according to the disassembly procedure of the product. The parts that require careful work are shown the illustration.

Parts list

a) FIGURE & KEY No.

The FIGURE & KEY No. column corresponds to the key numbers assigned to the parts in the parts layout illustration.

It also corresponds to the part locations printed on the PC board.

b) PART NUMBER

The PART NUMBER column gives the part numbers corresponding to the key numbers. To order a part, indicate the part number clearly.

Note: Parts marked NPN are not service parts.

c) RANK

The service parts with N in the RANK column are order parts.

d) QTY

The QTY column gives the number of parts in the corresponding components layout illustration.

e) DESCRIPTION

The DESCRIPTION column gives the part names in English.

To order a part, indicate the part name, too.

TOOL LIST

This is a list of tools used for servicing products.

B. SCREWS & WASHERS LIST

This is a list of screws, nuts, washers, lock washers, pins, and spacers.

The QTY column does not give the number of parts used.

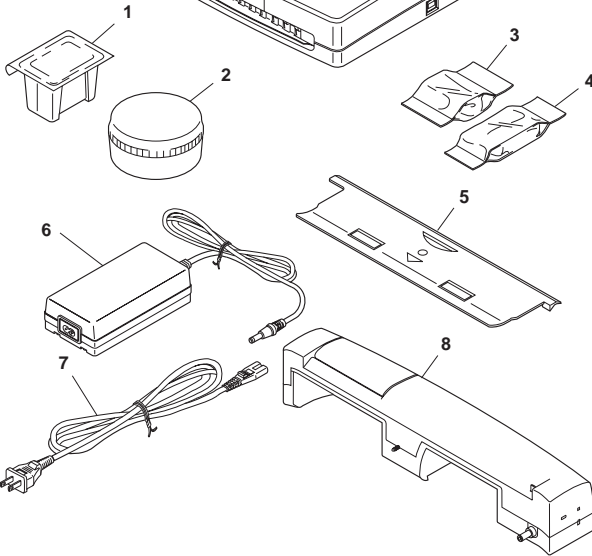
C. NUMERICAL INDEX

All the parts listed in this parts catalog are arranged in order of part number.

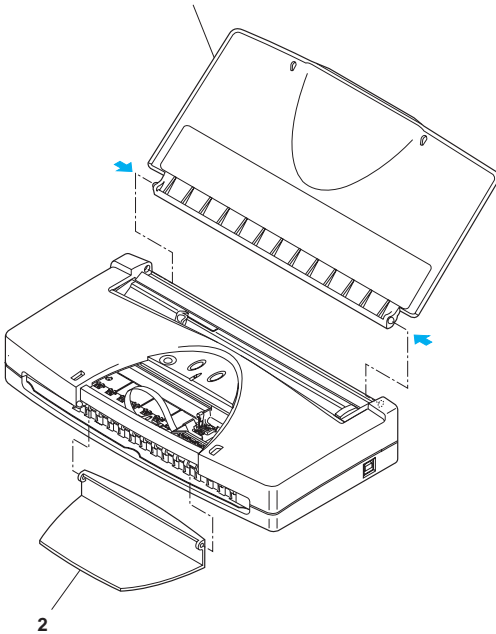
You can identify part locations and names from the NUMERICAL INDEX.

A.

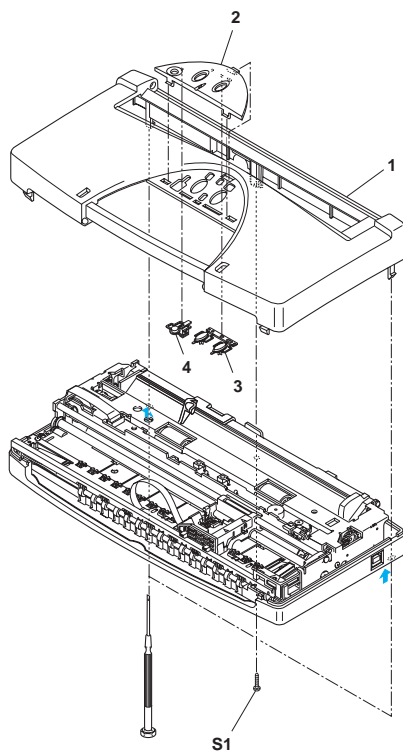
PRINTER SET



TOP COVER



UPPER COVER



CONTROL BOARD & LOWER COVER

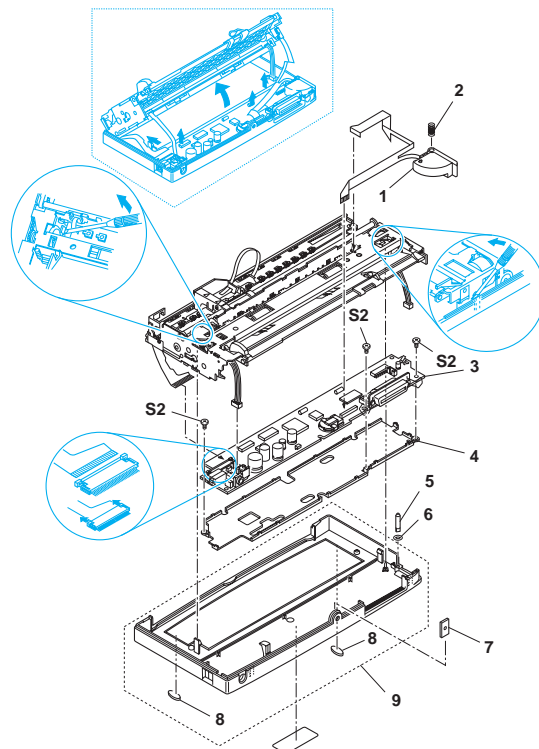


FIGURE & KEY NO.	PART NUMBER	R A N K	Q T Y	DESCRIPTION	REMARKS
1 - 1	NPN		1	BLACK BJ CARTRIDGE PACK	CONSUMABLES
	NPN		1	COLOR BJ CARTRIDGE PACK	CONSUMABLES
	NPN		1	PHOTO BJ CARTRIDGE PACK	CONSUMABLES
2	QG5-1059-000	N	1	CARTRIDGE CONTAINER(SB-10)	
3	NPN		1	COLOR INK CARTRIDGE	FOR COLOR BJ CARTRIDGE
	NPN		1	COLOR INK CARTRIDGE	FOR PHOTO BJ CARTRIDGE
4	NPN		1	BLACK INK CARTRIDGE	FOR BLACK BJ CARTRIDGE
	NPN		1	BLACK INK CARTRIDGE	FOR COLOR BJ CARTRIDGE
	NPN		1	BLACK INK CARTRIDGE	FOR PHOTO BJ CARTRIDGE
5	QF5-0256-000		1	PICK-UP SUPPORT ASS'Y	
6	QH3-3381-020	N	1	AC ADAPTER: 100V-240V 50/60HZ	OUTPUT 13VDC, 1.8A
7	WT3-5079-000		1	CORD, POWER	220V-240V
	WT3-5081-000		1	CORD, POWER	220V-240V, AUST
	WT3-5092-000		1	CORD, POWER	220V-240V,UK
	WT3-5093-000		1	CORD, POWER	100V-120V
8	QG2-3053-000		1	PORTABLE KIT (W/O BATTERY)	
2 - 1	QB1-4453-000		1	COVER, TOP	
2	QB1-4449-000		1	COVER, INNER	FOR BJC-85
	QB1-4450-000		1	COVER, INNER	FOR BJ M70
3 - 1	QB1-4454-000		1	COVER, UPPER	
2	QB1-4451-000		1	COVER, PANEL	FOR BJC-85
	QB1-4452-000		1	COVER, PANEL	FOR BJ M70
3	QB1-3001-000		1	SWITCH, PANEL	
4	QB1-4456-000		1	SWITCH, CARTRIDGE	
4 - 1	QG5-0989-000		1	IRDA UNIT	
2	QB1-3006-000		1	SPRING, IR	
3	QG2-3096-000		1	CONTROL PCB ASS'Y	FOR BJC-85
	QG2-3097-000		1	CONTROL PCB ASS'Y	FOR BJ M70
4	QB1-3008-020	N	1	PLATE, SHIELD	
5	QB1-3005-000		1	SHAFT, IR	
6	QB1-3013-000		1	O RING	
7	QB1-1136-000		1	PLATE, ROCK	
8	QB1-1135-000		2	FOOT, RUBBER (B)	
9	QF5-0550-000		1	LOWER COVER UNIT	

FIGURE 5 IRDA UNIT

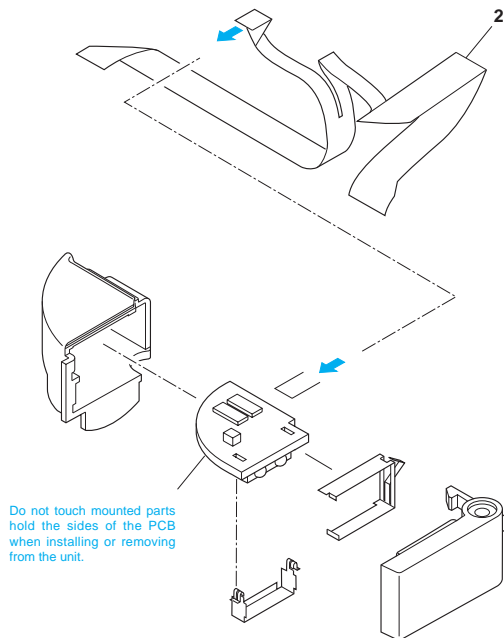


FIGURE 6 PANEL BOARD & CHASSIS PLATEN UNIT

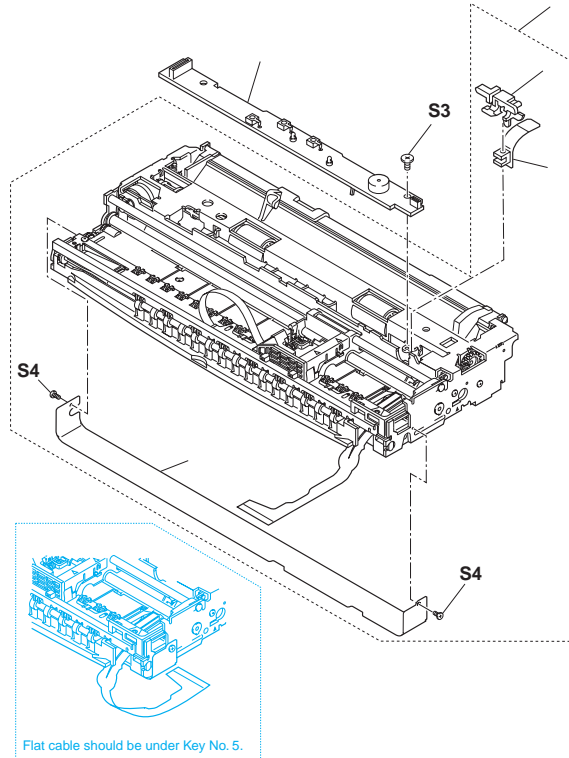


FIGURE 7 PURGE & WASTE INK ABSORBER PARTS

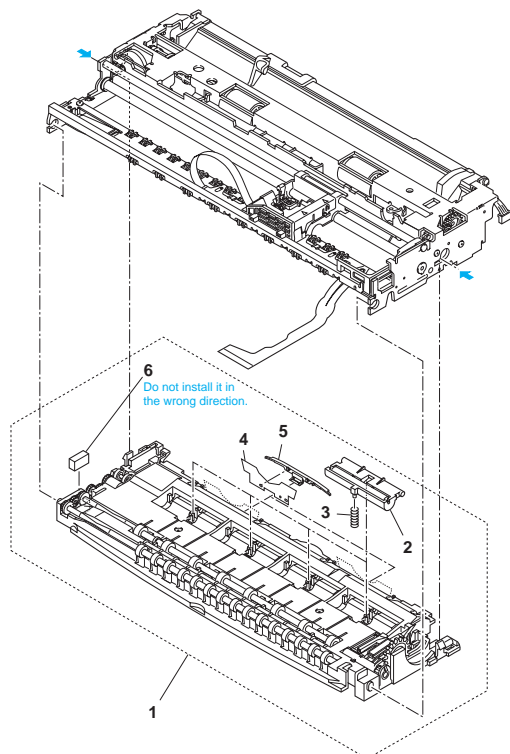


FIGURE 8 ASF UNIT

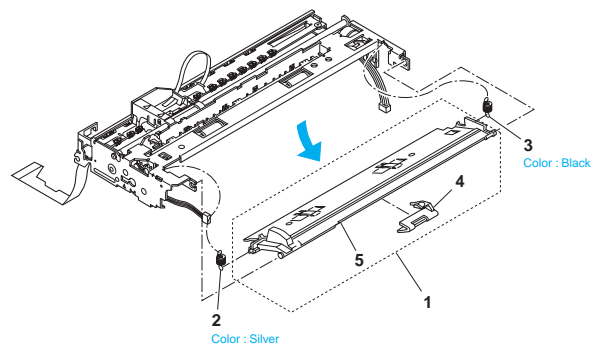


FIGURE & KEY NO.	PART NUMBER	R A N K	Q T Y	DESCRIPTION	REMARKS
5 - 1	QH7-8864-000		1	IR MODULE UNIT	
2	QH1-1487-040		1	CABLE, FLAT	
6 - 1	QG2-2923-000		1	PANEL BOARD UNIT	
2	QG5-1476-000		1	CHASSIS PLATEN UNIT	FOR BJC-85
	QG5-1481-000		1	CHASSIS PLATEN UNIT	FOR BJ M70
3	QB1-1055-000		1	HOLDER, SENSOR	
4	QH8-8794-000		1	PHOTO MICRO SENSOR	(WITH CABLE)
5	QB1-4460-000		1	SHEILD	
7 - 1	QG5-1475-000		1	PRINTER BASE UNIT	(WITH INK ABSORBER)
2	QG5-0796-020		4	PINCH ROLLER UNIT	
3	QB1-2349-000		4	SPRING, COIL	
4	QB1-2350-000		2	SEPARATION SHEET	
5	QB1-2124-000		2	RETAINER	
6	QB1-2122-000		1	PAD	
8 - 1	QG5-0716-000		1	PAPER LIFTING PLATE UNIT	
2	QB1-1064-000	N	1	SPRING, COIL	
3	QB1-1083-000	N	1	SPRING, COIL	
4	QB1-1084-000		1	GUIDE, PAPER	
5	QF5-0253-000		1	PAPER LIFTING PLATE ASS'Y	

FIGURE 9 CARRIAGE PART

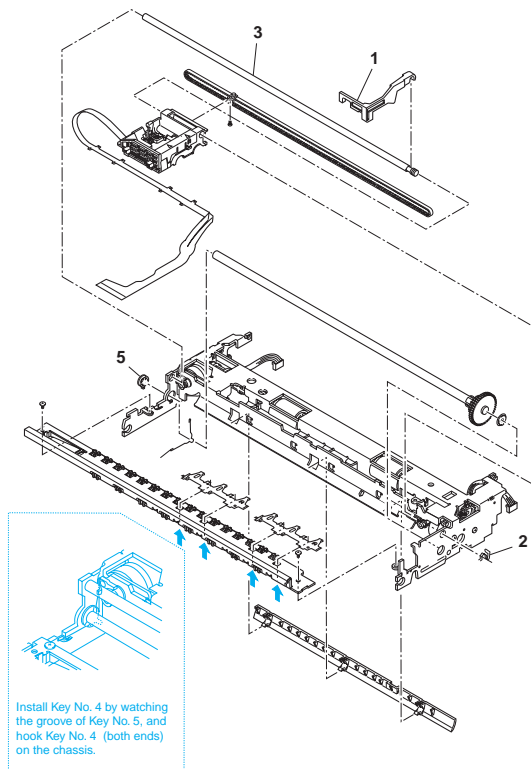
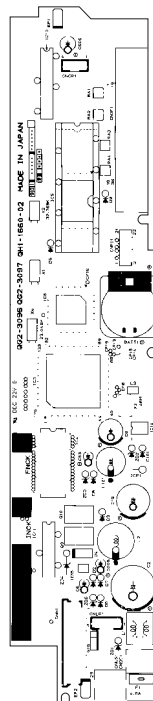
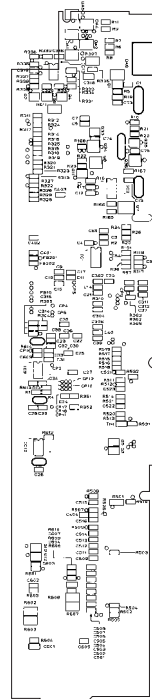


FIGURE 10 CONTROL BOARD COMPONENT



TOP VIEW



BOTTOM VIEW

FIGURE 11 TOOL

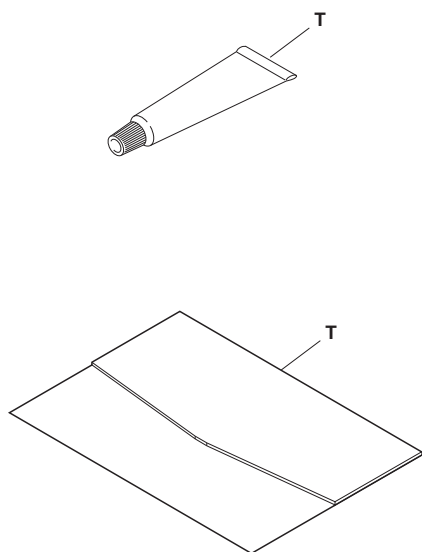


FIGURE & KEY NO.	PART NUMBER	R A N K	Q T Y	DESCRIPTION	REMARKS
9 - 1	QB1-1106-000		1	ARM, ROCK	
2	QB1-3238-000		1	STOPPER	
3	QB1-1050-000	N	1	SHAFT, CARRIAGE GUIDE	
4	QB1-1058-000		1	BUSHING, HOLDER(LEFT)	
5	QB1-4458-000		1	BUSHING, LEFT	
10 - BATT 1	QH7-8525-000	N	1	BATTERY, LITHIUM: BHT CR2032BULK	
CNCR 1	VS1-5073-004	N	1	CONNECTOR, B6B-PH-K-K	
CNDC 1	WS1-5528-000	N	1	DC CONNECTOR, HEC3810-01-010 3P	
CNH 1	VS1-1169-029	N	1	CONNECTOR, 29P	
CNIF 1	QH8-8828-000		1	CONNECTOR, CENTRONICS INTERFACE	
CNLF 1	VS1-5842-005	N	1	CONNECTOR, 5P	
CNPI 1	VS1-6583-022	N	1	CONNECTOR(F), 22P	
CNUS 1	WS1-5829-000	N	1	CONNECTOR, USB, 4P	
F 1	VD7-1764-001		1	FUSE, 4.0A 48V, SLM40	
IC 1	WA4-6615-000	N	1	IC, NJM2103M, RESET	
IC 2	WA4-6372-000	N	1	IC, NJM2360AM, REGULATOR	
IC 3	QH8-0238-000		1	IC, UPD82662GM-001-JEU, ASIC	
IC 4	WA3-6255-000	N	1	IC, UPD424260LE-70, DRAM	
IC 5	QH8-0258-000		1	IC, MBM29F800TA-70PFTN, FLASH-ROM	FOR BJC-85
	QH8-0259-000		1	IC, MBM29F160TE-70TN, FLASH-ROM	FOR BJ M70
IC 6	WA7-0314-000	N	1	IC, TMP95C061BF, MPU	
IC 10	WA4-6654-000		1	IC, M54676P, DRIVER	
IC 11	WA4-0371-000		1	IC, ULN2003AN, DRIVER	
IC 12	WA4-7311-000	N	1	IC, S-3510ANFJA, TIMER	
IC 13	WA4-0349-000	N	1	IC, NJM2904M, OPE. AMP	
IC 14	WA4-6373-000	N	1	IC, SAI01, REGULATOR	
IC 15	WA4-7270-000	N	1	IC, MM1385EN, REGULATOR	
ICP 1	VD7-1627-500		1	FUSE, 0.75A 60V: 491.750	
X 2	WK2-5839-000	N	1	OSCILLATOR, CRYSTAL: 32.768KHZ	
X 3	WK2-6030-000	N	1	OSCILLATOR, QUARTZ: 48.000MHZ	
X 4	QH8-0260-000	N	1	OSCILLATOR, QUARTZ: 23.04MHZ	
T - 1	CK-0562-000		1	GREASE, MOLYKOTE PG-641	
2	QY9-0055-000		1	CLEANER, SPUR	

B.

SCREWS & WASHERS LIST

[illegible]

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C. NUMERICAL INDEX

PART NUMBER	FIGURE & KEY NO.	DESCRIPTION	PART NUMBER	FIGURE & KEY NO.	DESCRIPTION
CK-0562-000	T - 1	GREASE, MOLYKOTE PG-641	VS1-5842-005	10 - CNLF 1	CONNECTOR, 5P
QB1-1050-000	9 - 3	SHAFT, CARRIAGE GUIDE	VS1-6583-022	10 - CNPI 1	CONNECTOR(F), 22P
QB1-1055-000	6 - 3	HOLDER, SENSOR	WA3-6255-000	10 - IC 4	IC, UPD424260LE-70, DRAM
QB1-1058-000	9 - 4	BUSHING, HOLDER(LEFT)	WA4-0349-000	10 - IC 13	IC, NJM2904M, OPE. AMP
QB1-1064-000	8 - 2	SPRING, COIL	WA4-0371-000	10 - IC 11	IC, ULN2003AN, DRIVER
QB1-1083-000	8 - 3	SPRING, COIL	WA4-6372-000	10 - IC 2	IC, NJM2360AM, REGULATOR
QB1-1084-000	8 - 4	GUIDE, PAPER	WA4-6373-000	10 - IC 14	IC, SAI01, REGULATOR
QB1-1106-000	9 - 1	ARM, ROCK	WA4-6615-000	10 - IC 1	IC, NJM2103M, RESET
QB1-1135-000	4 - 8	FOOT, RUBBER (B)	WA4-6654-000	10 - IC 10	IC, M54676P, DRIVER
QB1-1136-000	4 - 7	PLATE, ROCK	WA4-7270-000	10 - IC 15	IC, MM1385EN, REGULATOR
QB1-2122-000	7 - 6	PAD	WA4-7311-000	10 - IC 12	IC, S-3510ANFJA, TIMER
QB1-2124-000	7 - 5	RETAINER	WA7-0314-000	10 - IC 6	IC, TMP95C061BF, MPU
QB1-2349-000	7 - 3	SPRING, COIL	WK2-5839-000	10 - X 2	OSCILLATOR, CRYSTAL: 32.768KHZ
QB1-2350-000	7 - 4	SEPARATION SHEET	WK2-6030-000	10 - X 3	OSCILLATOR, QUARTZ: 48.000MHZ
QB1-3001-000	3 - 3	SWITCH, PANEL	WS1-5528-000	10 - CNDC 1	DC CONNECTOR, HEC3810-01-010 3P
QB1-3005-000	4 - 5	SHAFT, IR	WS1-5829-000	10 - CNUS 1	CONNECTOR, USB, 4P
QB1-3006-000	4 - 2	SPRING, IR	WT3-5079-000	1 - 7	CORD, POWER
QB1-3008-020	4 - 4	PLATE, SHIELD	WT3-5081-000	1 - 7	CORD, POWER
QB1-3013-000	4 - 6	O RING	WT3-5092-000	1 - 7	CORD, POWER
QB1-3238-000	9 - 2	STOPPER	WT3-5093-000	1 - 7	CORD, POWER
QB1-4449-000	2 - 2	COVER, INNER	XA1-7200-259	S - 4	SCREW, M2X2.5
QB1-4450-000	2 - 2	COVER, INNER	XA9-0742-000	S - 3	SMALL SCREW, 5.5X2.6MM
QB1-4451-000	3 - 2	COVER, PANEL	XA9-0989-000	S - 1	LONG SCREW, M2.6X20
QB1-4452-000	3 - 2	COVER, PANEL	XB5-2260-505	S - 2	SCREW, M2.6x5
QB1-4453-000	2 - 1	COVER, TOP			
QB1-4454-000	3 - 1	COVER, UPPER			
QB1-4456-000	3 - 4	SWITCH, CARTRIDGE			
QB1-4458-000	9 - 5	BUSHING, LEFT			
QB1-4460-000	6 - 5	SHEILD			
QF5-0253-000	8 - 5	PAPER LIFTING PLATE ASS'Y			
QF5-0256-000	1 - 5	PICK-UP SUPPORT ASS'Y			
QF5-0550-000	4 - 9	LOWER COVER UNIT			
QG2-2923-000	6 - 1	PANEL BOARD UNIT			
QG2-3053-000	1 - 8	PORTABLE KIT (W/O BATTERY)			
QG2-3096-000	4 - 3	CONTROL PCB ASS'Y			
QG2-3097-000	4 - 3	CONTROL PCB ASS'Y			
QG5-0716-000	8 - 1	PAPER LIFTING PLATE UNIT			
QG5-0796-020	7 - 2	PINCH ROLLER UNIT			
QG5-0989-000	4 - 1	IRDA UNIT			
QG5-1059-000	1 - 2	CARTRIDGE CONTAINER(SB-10)			
QG5-1475-000	7 - 1	PRINTER BASE UNIT			
QG5-1476-000	6 - 2	CHASSIS PLATEN UNIT			
QG5-1481-000	6 - 2	CHASSIS PLATEN UNIT			
QH1-1487-040	5 - 2	CABLE, FLAT			
QH3-3381-020	1 - 6	AC ADAPTER: 100V-240V 50/60HZ			
QH7-8525-000	10 - BATT 1	BATTERY, LITHIUM: BHT CR2032BULK			
QH7-8864-000	5 - 1	IR MODULE UNIT			
QH8-0238-000	10 - IC 3	IC, UPD82662GM-001-JEU, ASIC			
QH8-0258-000	10 - IC 5	IC, MBM29F800TA-70PFTN, FLASH-ROM			
QH8-0259-000	10 - IC 5	IC, MBM29F160TE-70TN, FLASH-ROM			
QH8-0260-000	10 - X 4	OSCILLATOR, QUARTZ: 23.04MHZ			
QH8-8794-000	6 - 4	PHOTO MICRO SENSOR			
QH8-8828-000	10 - CNIF 1	CONNECTOR, CENTRONICS INTERFACE			
QY9-0055-000	T - 2	CLEANER, SPUR			
VD7-1627-500	10 - ICP 1	FUSE, 0.75A 60V: 491.750			
VD7-1764-001	10 - F 1	FUSE, 4.0A 48V, SLM40			
VS1-1169-029	10 - CNH 1	CONNECTOR, 29P			
VS1-5073-004	10 - CNCR 1	CONNECTOR, B6B-PH-K-K			



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